

## ABSTRACT

A method for manufacturing an optical waveguide refractive index grating having a desired grating pitch  $\Lambda$ . The method includes the step of providing a photosensitive waveguide and a writing beam of actinic radiation, the writing beam having an intensity.

- 5 The waveguide is translated relative to the writing beam at a velocity  $v(t)$ . The intensity of the writing beam is modulated as a function of time at a frequency  $f(t)$ , wherein

$\frac{v(t)}{f(t)} \approx \Lambda$ . The step of modulating the intensity of the writing beam as a function of time

at a frequency  $f(t)$  including the step of varying  $\Lambda$ .